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## The transformative learning and critical reflection approach to sustain self-care program for chronically ill persons in philanthropic primary health care unit

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### Abstract

The purpose of this study was to develop a sustainable self-care program for chronically ill persons, who sustained self-care practicing from attitude transformation. There were 2 steps of the study. Step1 was a sustainable self-care program development by literature reviewing. Step2 was the experimental study of the intervention's effects, which comprised of 12 weekly hour-long sessions. We collected data of self-care knowledge, attitude, skill and drug usage by personal interviewing at baseline and 12 weeks later, which were analysed by using t-tested controlling for age, gender, and socioeconomic status. The results showed that Boone's non-formal education conceptual model combined with 6 core elements of Taylor's transformative learning process was suitable. Furthermore, we synthesized the critical reflection process, which consisted of trigger event or dilemma simulation, dialog and premise exploration. According to Thai lifelong learning context, we chose a philanthropic primary health care unit in this study, which improved social, human and monetary capital sustainably. The learners gained self-care knowledge, changed attitude, improved self-care practicing and decreased drug usage significantly. In conclusion, self-care program by using non-formal education activities and critical reflection to change attitude and improve self-care practicing is sustainable.

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## 1. Introduction

Nowadays, the problem of chronic illness elders (e.g. cardiovascular disease, hypertension, diabetes mellitus, etc.) is important over the world. In 2011, Thais over 65 years of age constituted 16.78% of population, 38.7% accounted for dependency, 80% had chronic conditions. Thus the elders with chronic disease cause a big burden of family, community, social and country. Thai chronically illness constituted of 1,790,275 persons, increased 9.2% of population, accounted for outcome lost about 52,150 million bahts and most of the cause of death of Thai people is chronic disease (Annual health report of Thailand, 2012). From the survey project of exchanging useless drugs with eggs, the excessive useless drugs due to drug dependence cost more than 100,000 million bahts per year or about 45% of health expenditures and the most of excessive useless drugs were chronic illness drugs such as antihypertensive drugs, oral hypoglycemic drugs (Annual health report of Thailand, 2012). To address quality of life and cost concern raised by this figure, health promotion interventions for chronically ill persons have become a high priority (Lubkin, 1990). One of the ways to reduce these burdens is promoting self-care in chronically ill persons especially the elder. Self-care consists of universal self-care (e.g. diet controlling, physical activity, stress management, etc.) and self-care in health deviation (e.g. check up themselves, drug usage as necessary, etc.) (Orem, 2001). To date, the identifying and preventing risk factors of chronic diseases are focused. As yet, research has contributed little understanding of the sustainability of behavioural, psychological and social processes which might temper and indeed improve functioning chronically illness persons (Kaplan, 1992). It is perhaps not surprising that in an era when resources for health promotion are limited and the expectations as to what can be achieved are high, that 'sustainability' has become a familiar catch-cry. There has been a lack of consensus about conceptual and operational definitions of sustainability in health promotion programs. For health promotion, the sustainability refers to the intervention effects or the mean by which are produced the programs and agencies that implement interventions. The aim of health promotion is to produce intervention effects that may be sustain over time. Intervention that are pitched at the wrong level of social system are unlikely to be effective, let alone sustainable. For health promotion, this has been characterized as a shift from risk factor interventions to interventions aimed at risk conditions. Risk factor interventions are conceptualized at the individual level of social organization. Typically they focus on health behaviours such as smoking, diet controlling and physical activity (Swerisssen and Crisp, 2004). On the other hand, risk conditions such as social cohesion and support, income security and access to social, educational and health services, are more usually thought of as a function of organizational, community and institutional levels of social organization. For example, there is now strong interest in findings that communities with high levels of income inequality tend to have less social cohesion, more violent crime and higher death rates. There is also friendship, good social relations and strong supportive networks improve health at home, at work and in community, whereas low social support has been linked to increased rates of premature death, poorer chances of survival after heart attack, lesser feelings of well-being, more depression, greater risk of pregnancy complications and higher levels of disability from chronic diseases (Wilkinson and Marmot, 1998). Such findings suggest the appropriateness of an intervention aimed at enhancing sense of self, health, self-care agency and personal control. The studies have documented the significant role which chronically ill person's mindset (or attitude toward health, life, self) played in determining successful self-care management of chronic illness. The patient's negative mindset interacted dynamically with support systems to create unsuccessful dependence, with frequent readmissions to hospitals. The potential for enhancing patient's mindset and, in turn, participation in one own health and health promotion intervention through application of perspective transformation was thereby identified (McWilliam et al., 1999).

The less negative mindset and opposition of health promotion program especially self-care, the more sustainability of health promotion interventions. The sustainable health promotion program may be approached by lifelong learning. OECD suggests lifelong learning as an approaching the sustainable development. The concept of lifelong learning as an educational strategy emerged some three decades ago, the efforts of the OECD, UNESCO, and the Council of Europe. It was response to the anomaly that while individuals learn throughout life, the provision of education opportunities was limited largely to the early phase of life, dominated by formal education. There was a perceived need to provide a "second chance" to those who did not benefit from educational opportunities available during childhood and youth. So it includes formal education, non-formal education and informal education. In current OECD usage, lifelong learning no longer refers simply to recurrent or adult education but encompasses all learning endeavours over the life span. While the term is in wide currency, often used as a slogan, it is open to

multiple interpretations. So it can use to sustain program developments in many fields. This explores the more precise policy meaning of the concept that underlies recent OECD work (OECD, 2004). The suitable lifelong learning process that may solve this problem is transformative learning. Transformative learning theory is one of adult education or non-formal education theories. A defining condition of being human is that we have to understand the meaning of our experience. For some, any uncritically assimilated explanation by authority figure will suffice. But in contemporary societies we must learn to make own interpretations rather than act on the purposes, judgments beliefs, and feelings of others. Transformative learning develops autonomous thinking (Mezirow, 1991). Thus, the purpose of this study was to develop a sustainable self-care program for chronically ill persons, who sustained self-care practicing from attitude transformation by using non formal education activities, transformative learning and dilemma simulation such as paralyse, blindness, leg amputation, obesity in critical reflection.

### *1.1.Objectives*

- To develop a sustainable self-care program for chronically ill persons.
- To study the effects of intervention in self-care knowledge, attitude, skill and drug usage of chronic illness person before and after intervening.

## **2. Methodology**

We designed this study by dividing it into two phrases. Phrase1 was literature reviewing and field visiting to collect qualitative data. Phrase2 was experiment study consenting subjects from philanthropic primary health care unit in suburban area of north-eastern part of Thailand. For phrase1, the investigator developed sustainable self-care program and synthesized the activities or intervention for phrase2. Phrase2, the principal investigator paired subjects controlled and experimental group by age, gender, socioeconomic status following completion of baseline data collection. Information on drug usage, demographics, knowledge, attitude, practice of self-caring were gathered on all scalar measure at baseline and at 12 weeks later. Data were collected by a research assistant, who was kept blind to the subject's groups. The experimental group received the intervention plus the usual care, while the attention control group received the usual care with regular health education.

The intervention was developed in phrase1. The important intervention premised upon the adult education of transformative learning (Taylor, 2009). Through participation in reflective dialogue guided by one specially trained, experienced doctor, the individual was intended to acquire an understanding which altered their expectations, beliefs, values and perceptions related their experience of chronic illness. The phrases of perspective transformation vary with the topic, and in this study reflected a self-caring and therapeutic application (Orem, 2001) intended to transpire over the course of self-care. The implementation was in phrase2 by measuring quantitative data(e.g. knowledge, attitude, practicing, drug usage) by personal assessment questionnaires which already tested validity and reliability by specialist validation(IOC value), exploratory factor analysis, internal consistency(Chronbach's alpha) and KR-20 for reliability at baseline and 12 weeks later are analyzed using t-tested comparing between experimental and controlled groups. Exclusion criteria eliminated those who were cognitive impaired or pregnancy. The sample size was calculate to compare the differences in mean change scores on the selected outcome measures of mindset for a medium effect size of 0.80 with alpha set at 0.05(two-tailed) and beta set at 0.20 was 31 subjects in each group.

## **3. Results**

The result of phrase1, from systematic reviewed to the sustainability of health promotion program or intervention, we chose Boone's conceptual model of non-formal education program. The model consisted of planning, design and implementation, evaluation and accountability under 5 assumptions (1. Planning is futuristic activity, 2. The planning behaviour of the adult education organization is proactive rather than reactive, 3. Planning enhances efficiency in the adult education organization, 4. Planning is sequential or phrase-wise, involving collecting and analysing related information, and identifying, assessing and analysing needs, 5. Planning is collaborative; that is, it

includes representatives of all who are affected by it.) and 4 concepts(1. Planned change, 2.Linkage. 3. Democracy 4. Translation)(Boone, 1992).

The theory of transformative learning has evolved from three common themes in Mezirow's theory: centrality of experience, critical reflection, and rational discourse, which is based on critical social theory (Scott, 1997) and psychoanalytic theory (Boyd and Myers, 1988). Perspective transformation explains how the meaning structures that adults have acquired over a lifetime become transformed. These meaning structures are frames of reference that are based on the totality of individuals' cultural and contextual experiences and that influence how they behave and interpret events. An individual's meaning structure will influence how she chooses to vote or how she reacts to women who suffer physical abuse, for example. As described by Mezirow (1991), transformative learning occurs when individuals change their frames of reference by critically reflecting on their assumptions and beliefs and consciously making and implementing plans that bring about new ways of defining their worlds. The theory describes a learning process that is primarily "rational, analytical, and cognitive with inherent logic" (Grabov, 1997). The process of discernment is central to transformative education (Boyd and Myers, 1988). Discernment calls upon such extra-rational sources as symbols, images, archetypes to assist in creating a personal vision as meaning of what it means to be human (Cranton, 1994). The process of discernment is composed of the three activities of receptivity, recognition, and grieving. First, an individual must be receptive or open to receiving "alternative expressions of meaning," and then recognize that the message is authentic. Grieving, considered to be the most critical phrase of the discernment process, takes place when an individual realizes that old patterns or ways of perceiving are no longer relevant, moves to adopt or establish new ways, and finally, integrates old and new patterns (Boyd and Myers, 1988).

The humanist assumptions are inherent in transformative learning theory. If we could not make the assumptions that people can make choices, have the potential for growth and development, and define their own reality, transformative learning could not be described as it is described. What is problematic here is that the assumptions are rooted in the Western perspective; this may contribute to the challenges theorists encounter when transporting transformative learning theory into non-Western perspectives or attempting to integrate the two. An extra-rational (imaginative, intuitive, individuated, depth psychology) approach to transformative learning is easily associated with the philosophical assumptions of humanism—freedom, autonomy, choice, importance of individual. If transformative learning is about differentiating the self from the collective through bringing unconscious to consciousness as the depth psychologists propose, then it is about defining the self-humanist goal. The cognitive-rational approach to transformative learning is also concerned with freedom, autonomy and choice. People make a choice to engage with an alternative perspective; without this caveat, we move into the realm of manipulation rather than transformation (Taylor 2009).

Mezirow (1991) was explicit in saying that constructivist assumptions underlie transformative learning theory. The conviction that meaning exists within ourselves rather than in external forms such as books and that personal meanings that we attribute to our experience are acquired and validated through human interaction and experience. Transformative learning theory is based on the notion that we interpret our experiences in our own way, and that how we see the world is a result of our perceptions of our experiences. Transformative learning is a process of examining, questioning, and revising those perceptions. If we were to take the philosophical perspective that there are universal truths and constructs that are independent of our knowledge of them, then the goal of education would be to find those truths. Instead, argued Mezirow in 1991, we develop habitual expectations (frame of reference) based on past experiences. We expect things to be as they were before. Or, put another way, we uncritically assimilate perspectives from our social world, community, and culture. Those perspectives include distortions, stereotypes, and prejudices. They guide our decision making and our expectations. At that point, we reject the discrepant perspective or enter into a process that could lead to a transformed perspective (Taylor, 2009).

From various perspectives, we conclude that 6 core elements of Taylor's model is suitable for our study; core elements are the essential components that frame a transformative teaching. These elements, based on the literature, seem to be part of most transformative educational experience, critical reflection, and dialogue. However, as the study of transformative learning has evolved other elements have emerged as equally significant: a holistic orientation, awareness of context, and an authentic practice. Individual experience, the primary medium of transformative learning, consists of what each learner brings (prior experiences) and also what he or she experiences within the classroom itself (Taylor, 2009). Critical reflection, a distinguishing characteristic of adult learning, refers to questioning the integrity of deeply held assumptions and beliefs based on prior experience. It is often prompted in

response to an awareness of conflicting thoughts, feelings, and actions and at times can lead to a perspective transformation (Mezirow, 1991). Dialogue is the essential medium through which transformation is promoted and developed. However, in contrast to everyday discussions, it is used most often in transformative learning “when we have reason to question the comprehensibility, truth, appropriateness (in relation to norms), or authenticity (in relation to feelings) of what is being asserted or to question the credibility of the person making the statement” (Mezirow, 1991). The holistic orientation encourages the engagement with other ways of knowing-the affective and relational. Past research demonstrated that often too much emphasis is given to rational discourse and critical reflection in fostering of transformative learning and not enough recognition of the role of the affective and other ways of knowing (Taylor, 2009). Developing an awareness of context when fostering transformative learning is developing a deeper appreciation and understanding of the personal and socio-cultural factors that play an influencing role in the process of transformative learning. These factors include the surroundings of the immediate learning event, the personal and professional situation of the learners at the time (their prior experience), and the background context that is shaping society. Environmentally one of the most significant contextual issues of transformative learning is temporal constraints. Research suggest that fostering transformative learning is time-consuming, particularly when an effort is being made to provide access to all participants’ voices as well as coming to consensus around various group decisions. Furthermore, working with rigid time period poses additional challenges when engaging intense personal experiences that cannot be resolved by the time class is over. These efforts are further compromised with a traditional classroom setting with short class period. A sixth element is the importance of establishing authentic relationship. Fostering transformative learning in the classroom depends to a large extent on establishing meaningful, genuine relationship. Previous research found that establishing positive and productive relationships with others is one of the essential factors in a transformative experience (Taylor, 2009).

Thus we chose sustainable health promotion for self-care from Boone’s non formal education model combined with theory of Taylor’s perspective transformation composed of 6 core elements which are experience, critical reflection, awareness of context, authentic relation, dialogue, holistic orientation. Moreover, we emphasized and synthesized the critical reflection process from Cranton (1994), Gardner (2006), Lehmann (2006), Fook & White (2006). The process of critical reflection is trigger event, dialogue, supporting group and exploratory assumptions through content, process and premise reflection (Cranton, 1994). Articulate learning with questioning of assumption, awareness of emotional and rational conflicts, understanding of context and socio-cultural (Gardner, 2006). Opening mind and exploration through discussion in critical incidence (Fook & White, 2006). Searching and investigating knowledge, describe and dialogue, interpretation from dialogue, exploration of assumption (Lehmann, 2006). About the dialogue, most of dialogue in transformative learning is discourse but we think that in context of health it appropriates to reduce the social class to make the atmosphere of leaning in calmness, authentic relation, holistic of emotional and rational orientation, so we used life’s mentoring dialogue (Herman and Mandell, 2004). So we concluded and synthesized the critical reflection process composes of trigger event or dilemma simulation, life mentoring dialogue, and exploratory of assumption which consists of content reflection, process reflection and premise reflection. We conclude the overall process as model be showed as figure1 below.

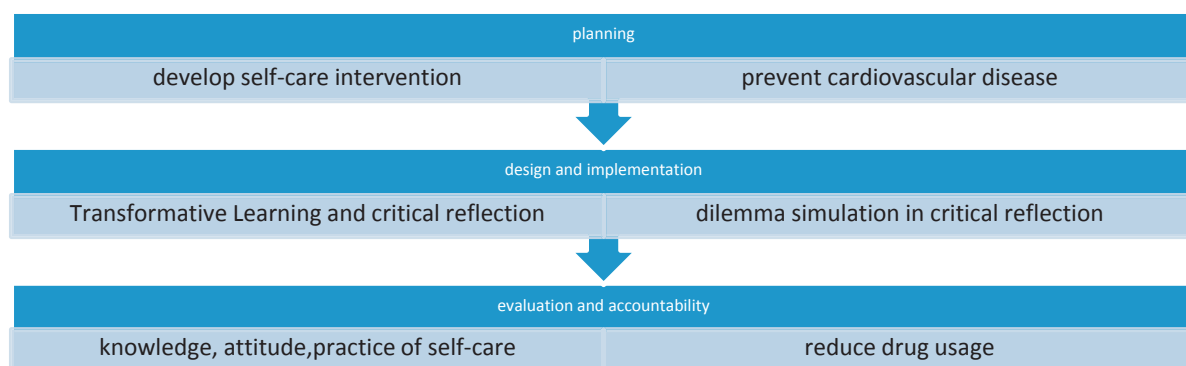


Figure1. Show model of overall process of the study

We designed the activities or intervention in 2 steps as showed in figure1, the description may be explained. Step1, the core elements of transformative learning compose of experience which we chose adult to learn in our program, authentic relationship and holistic orientation use neo-humanist activities, critical reflection and dialogue are synthesized by our group which consist of dilemma simulation or trigger events; life's mentoring dialogue; content, process and premise exploration. For example: role playing of paralysis and obesity, vegetable buffet in the dark, self-assessment of self-care by group drawing; story-telling; diary and journal writing; etc. The exploration and dialogue of content, process, premise reflection by the question "what, how, why". In detail of step2., applying of Thai folk games in critical reflection were 1) "the blind hit the pot" came from the complication of diabetes mellitus was cataract led to the blind 2) "the one leg's rabbit" came from the complication of diabetes mellitus and hypertension were vascular obligation's vein of leg led to amputation 3) "riding the horse to the town" came from the complication of diabetes mellitus and hypertension were cerebrovascular accident led to paralysis 4) "the crow keeps the egg" came from the lifestyle led to stress and became the factor of cardiovascular disease 5) "the obese hides the clothes" came from the lifestyle led to obesity and showed difficult in way of life which was the factor of cardiovascular disease 6) "the snake keeps the son and daughter" came from the lifestyle led to stress and became the factor of cardiovascular disease. The result of applying Thai folk game was good practice due to everyone was used to these entertainment, reminded the past, made good atmosphere, made holistic orientation, made authentic relation and awareness of context. We could say that applying of Thai folk games in critical reflection was suitable and satisfactory interventions.

The effects of our interventions will be shown the results in phrase2 of our study. From voluntary attendance in our program, we included 62 persons and divided into experimental and controlled groups by paring. The demographic and baseline clinical characteristics between two groups were not different, all of participants were Buddhist and poverty, most of all were female and low socioeconomic status(table 1).

Table 1. Demographic and clinical characteristics of participants(n=62)

Demographic characteristics	Experimental gr. Mean±SD or Proportion(n)	Controlled gr. Mean±SD or Proportion(n)	t-test or Chi-square test	p-value
Age	49.58±7.44	49.45±6.29	0.074	0.941
Gender(female)	96.8%(30)	96.8%(30)	<0.001	1.000
Religion(bhudist)	100%(31)	100%(31)	<0.001	1.000
Education				
Primary	32.3%(10)	38.7%(12)		
Secondary	41.9%(13)	41.9%(13)	1.259	0.739
High school	22.63.2%(7)	19.4%(6)		
Graduate	3.2%(1)	0%(0)		
Salary	1703.23	1409.68	0.796	0.430
	±1817.96	±952.31		
Income				
Enough	93.5%(29)	83.9%(26)	0.425	0.212
Not enough	6.5%(2)	16.1%(5)		
Marital status				
Bachelor	3.2%(1)	6.5%(2)		
Marry	80.6%(25)	80.6%(25)	6.096	0.730
Widow	16.2%(5)	12.9%(4)		
Occupation				
Agriculture	41.9%(13)	51.6%(16)		
Government	3.2%(1)	0%(0)	1.560	0.668
Private	25.8%(8)	25.8%(8)		
Housewife	29.0%(9)	22.6%(7)		
Drug Usage(baht/day)	4.23±0.89	4.58±1.01	-1.427	0.159

From 38 items of self-care knowledge, 1-5 Likert's scale of self-care attitude and 0-4 Likert's scale, the baseline of knowledge, attitude and health behaviors were not different between experimental group and controlled group. The comparison of experimental and controlled group was significantly changing in knowledge; attitude and self-care practicing (table 2).



Table2. Self-care knowledge, attitude and health behaviors of participants after intervening(n=62)

Self-care and drug usage	<i>Experimental gr. Mean±SD</i>	<i>Controlled gr. Mean±SD</i>	<i>t-test</i>	<i>p-value</i>
Self-care Knowledge	18.13±3.22	16.13±1.28	3.210	0.003
Positive attitude	2.34±0.50	2.02±0.53	2.202	0.032
Negative attitude	2.63±0.54	3.05±0.65	-2.995	0.004
Positive practicing	1.68±0.47	1.41±0.29	2.797	0.007
Negative practicing	2.23±0.61	2.64±0.53	-2.391	0.020
Drug Usage(baht/day)	3.87±0.89	4.69±1.09	-3.354	0.001

#### 4. Discussion

Currently, chronic disease is one of the most important health problems. To date, research in this area has focused largely on identifying and preventing risk factors of chronic diseases. As yet, research has contributed little understanding of the sustainability of behavioural, psychological and social processes which might temper and indeed improve functioning chronically illness persons (Kaplan, 1992). To address the sustainability of health promotion interventions for chronically ill persons have become a high priority. We choose Boone's conceptual model for non-formal education because of collaboration, proactive and linkage program are leading to sustainable program. From sustainable self-care after intervention, we choose transformative learning and focus on 6 core elements from Taylor's model. It will be sustainable due to transform frame of reference leading to sustain health behaviors from dependence care to self-care. The results of our study shows that the self-care interventions improve self-care practicing by self-care knowledge and attitude transformation lead to lessen drug expense.

The critical reflection is necessary for transformative learning. The process of critical reflection is synthesized by our study which is dilemma simulation, dialogue, premise exploration. The application of Thai folk games in critical reflection is good practice due to suitable for Thai lifestyle, good atmosphere, learning stimulus, authentic relation, holistic orientation and awareness of context.

From the awareness of context: in this study the context is health and we choose the area to study in primary health care unit in suburban area in north-eastern part of Thailand spiritual established by monk, doctor, dentist collaborate with community linkage to Government office and policy. We choose to start from social capital to improve quality of life of people in community or society(human capital), because of the prosperity index(economy, entrepreneurship & opportunity, governance, education, health, safety & security, personal freedom, social capital) of Thailand is highest in social capital(rank 19 in 144 countries) (Legatum Institute, 2013). When we talk about health equity, we should talk about accessibility and quality. Although the universal coverage scheme policy of Thailand's public health successes in accessibility, the quality is questioned. The philanthropic health care unit is one of the ways to decrease this problem. From the past to present, most of the monetary donations and charities have come to build hospital buildings or buy high technology instruments for secondary, tertiary or excellence health care units. There are some new ideas of philanthropic doctors to help poverty directly by establishing primary health care units. Those will be close to community and specialized treatment will be happened. The religion plays a major role and the monk is mediator of this. All of these occur because of the strength of Thailand's social capital. From our purpose of study, self-care will reduce drug and hospital care services and lead to decrease expense, furthermore the one who used to take time to care the chronically ill person will have time to go to work and earn money, so it improve monetary capital. The effects of the program will invite other people to give, share and come to the program, so it increases social capital again and becomes a sustainable cycle of lifelong learning society that can get rid a vicious cycle of low literacy, poverty, and illness(figure2).

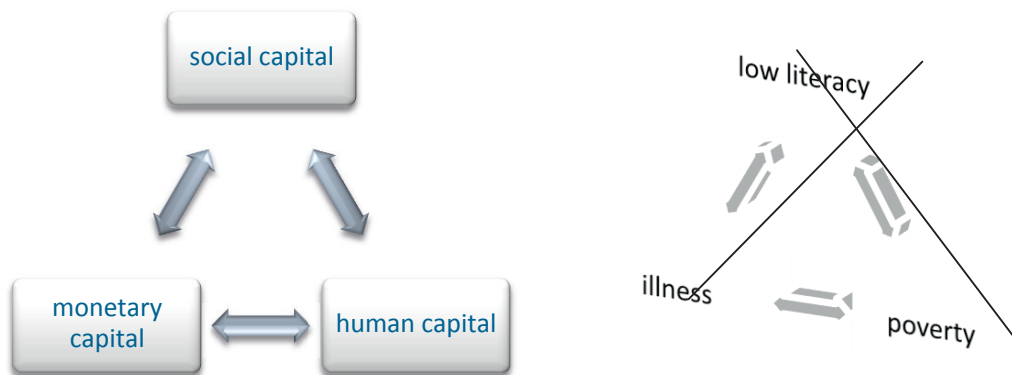


Figure2. Show sustainable practicing in lifelong learning society get rid vicious cycle

## 5. Conclusion

The term of sustainability in our study implies 2 meanings, one is sustainable of program or intervention which we use non-formal conceptual model of Boone with the main principle of collaboration and linkage as describe above. The other meaning is to sustain health behaviours, which we choose transformative to transform habitual perspective by 6 core elements of Taylor and apply Thai folk games in critical reflection. The term of critical reflection implies 2 meanings also, one is important or crisis or dilemma. The other meaning is critique, that means more than 1 frame of reference. Thus from our study, we conclude that sustainable health promotion intervention for chronic illness persons can be used by non-formal education activities combine with transformative learning activities to change attitude and self-care practicing. The Application of Thai folk games is appropriate and the other benefit is conservative of Thai sociocultural game, which has tendency to disappear due to innovative high technology game. So we advise to apply Thai folk games in other education activities as an educational innovation for further study.

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